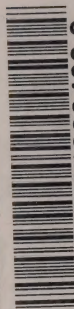


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WISE IDEAS WITH LIGHTING

*a conservenergy publication
from your hydro.*



This booklet suggests some simple ideas and practical measures you can take to save energy and money with the lighting you use.

your hydro



how to make more effective use of lighting energy

- Consider proper lighting maintenance.
- Lighter paints and finishes will contribute to efficient lighting.
- Make the most use of daylight.
- Shut off lights in unoccupied areas.
- Reduce wattage where possible.
- Use automatic controls to avoid waste.

fluorescent fixture design

To minimize accumulation of dust and dirt, many fluorescent fixtures are ventilated at the top of the reflector. These openings create a "chimney effect" which permits warm air to sweep up past the lamp, thereby carrying much of the air borne dust with it. This type of fluorescent fixture permits the lamps to operate more efficiently at a cooler temperature. Look for this feature when selecting new fluorescent fixtures. Good fixture design saves energy, operating costs and maintenance.

the right lamp

Comparison of lamp characteristics will yield valuable information on rated lamp life and light output. This information is available from any lamp manufacturer's catalogue. A more complete study of efficient light sources will show the most suitable lighting system to meet your visual needs at minimum operating cost, low maintenance cost and most important—the wise use of electricity.

proper lighting maintenance

It pays to establish a well planned program of lamp cleaning, re-lamping and service. Plan for periodic inspection of the entire lighting system and protect fluorescent ballasts by replacing burned out tubes immediately. With proper maintenance the lighting system will operate at designed efficiency and the need for supplementary lighting and subsequent waste of energy is avoided.

Many organizations have found that a maintenance contract with an outside firm of specialists pays dividends. Remember clean fixtures can reduce the need for more light.

lighter paints and finishes

A major factor in the efficiency of any lighting system in the reflectivity of walls, ceilings, floors and furniture. It's no secret that dark colours absorb light, while light colours reflect and contribute to the general visual comfort of an area. A brighter colour will usually mean less lighting will be needed, thus saving energy and money.

If an office or building is to be re-decorated consider repainting in light colours. Most tinted shades are acceptable. Cool shades (greens and blues) reflect more light than warm shades of beige, pink or coral. When picking a light finish the following reflectance table will provide a guide:

RECOMMENDED REFLECTANCE VALUES

Ceilings	—	80 to 90 Percent
Walls	—	40 to 60 Percent
Furniture	—	25 to 45 Percent
Floors	—	20 to 40 Percent

Most paint manufacturers offer guidelines on the reflective qualities of their products.

Where possible avoid highly glossed finishes since these surfaces produce glare, visual discomfort and eye strain.

A change from dark to light colours can increase average illumination levels, which would mean that less lighting will be needed. Saving in capital, operating costs and energy result.

make the most use of daylight

Venetian blinds can help control and distribute natural light and limit brightness.

By redirecting available light you'll be helping to cut down on the amount of artificial lighting required. By cutting back glare and heat radiation through glass surfaces you'll be reducing the load on your summer air conditioning. By doing either you'll be saving energy and money.

shut off lights in unoccupied areas

If your lighting isn't an integral part of the heating system—you don't need to leave all the lights on all night. In a building without timing devices ask the cleaning staff to turn all the lights off as they move throughout the building (except those required for security.)

Simple stickers may be used to identify the lights to be turned "off" and those that should be left "on". In corridors and hallways you may be able to reduce your lighting costs by switching off some of the fixtures.

reduced wattage

Where possible, reduce lamp wattage and contribute to the saving of electric energy and money. Lower levels of lighting may be acceptable in non-productive service areas. The installation of a 100 watt lamp instead of an

existing 150 watt gives a little less light, but saves 30% of energy. What energy we all save in a small way will help conserve valuable resources.

turn off unnecessary lighting

Important savings can be gained by switching to minimum lighting levels at night and on weekends. The cost of the additional wiring that may be required for selective control could be quickly recovered from the savings. Also, heat from lighting sources can contribute as much as 60% of the total air conditioning load in office buildings. A reduced off-hours lighting program would cut this cost as well.

limit outdoor energy use by automatic controls to avoid waste

Applications of outdoor lighting vary from parking area lighting to building, sign and equipment storage flood-lighting.

Photo-electric controls and automatic timing devices have found increasing acceptance in commercial parking areas and building floodlighting. They are also used extensively for the control of perimeter security lighting. Similarly, the more flexible automatic timing devices can limit sign and show-window lighting, building and area floodlighting to time periods when their effective lighting is most useful.

With today's need for the efficient use of energy, it has become most important that night lighting should be wisely used to limit the use of energy to only those hours when lighting is truly needed.

This does not imply that all lights should be shut off all night but it suggests that all *unnecessary* lighting, except that required for security, should be shut off during the early morning hours when the use of lighting energy is wasteful.

the automatic timing devices

Time switches are simple, rugged energy saving devices. The proper type of switch should be selected for optimum results. The specific needs of the installation must be considered in order to gain the timing flexibility required.

Several types are available:

1. 24 Hour Dial

This controls the same on-off times daily and would, as an example, be used where security lighting is necessary seven days a week.

2. Skip-a-Day

This 24 hour unit provides the same daily on-off times, but can skip selected days when not required. Suitable for commercial or industrial applications with no occupancy on weekends or holidays.

3. Seven-Day Dial

Provides seven-day control with the flexibility of different on-off times for each day (and the skip-a-day feature for selected days of the week). Used in store interior lighting where daily hours vary.

4. Photo-electric Sun Switch

The Sunset-to-Sunrise dial functions in this fashion. At sunset the lights are turned on and remain on until sunrise or any pre-set hour. Mainly used where security lighting is necessary. This unit is designed to adjust to the daily change in the sun's schedule automatically.

selecting the right timing device

Care in the selection of the timing device is recommended to assure the flexible control of the interior or exterior lighting system to meet your energy saving needs. Discuss the installation of timing devices with a qualified electrical contractor to assure best results. They save energy, time, manpower and money. Installing the correct timing device for your lighting system will result in savings of energy and future operating costs.

